

Claims

1. An electromechanical partial-lining disk brake with self-boosting, having an actuating device, having a friction brake lining, which for braking can be pressed by the actuating device against a brake disk, and having a self-booster, which has converts a frictional force, exerted by the brake disk on the friction brake lining when the friction brake lining is pressed against the rotating brake disk into a contact pressure, which presses the friction brake lining against the brake disk, characterized in that the self-booster (68) has a ramp mechanism 44, 46, 48, 40, 52, 54; and that ramps (50, 52, 54) of the ramp mechanism (44, 46, 48, 40, 52, 54) have a helical course that is concentric to one another and at least approximately concentric to an axis of rotation of the brake disk (16) and guide the friction brake lining (60), for pressing against the brake disk (16), both transversely to the brake disk (16) (feed motion) and approximately in a circular arc in the circumferential direction to the brake disk (16).
2. The electromechanical partial-lining disk brake according to claim 1, characterized in that the ramp mechanism (44, 46, 48, 40, 52, 54) has roller bodies (50, 52, 54); and that the ramps (50, 52, 54) guide the roller bodies (44, 46, 48) along helical paths having the same slope.
3. The electromechanical partial-lining disk brake according to claim 2, characterized in that the ramp mechanism (44, 46, 48, 40, 52, 54) has three balls (44, 46, 48) as roller bodies, which are disposed at corners of an imaginary triangle (58).

4. The electromechanical partial-lining disk brake according to claim 1, characterized in that the disk brake (10) has a frame (40, 56, 58), on which the friction brake lining (60) is braced on being pressed against the brake disk (16), and which is located approximately at the same level as a center point of the area of the friction brake lining (60).

5. The electromechanical partial-lining disk brake according to claim 3, characterized in that a center point of the area of the friction brake lining (60), braced with the roller bodies (44, 46, 48), is located inside the imaginary triangle (58).

6. The electromechanical partial-lining disk brake according to claim 2, characterized in that the roller bodies (44, 46, 48) are retained with a retainer (66), which keeps the roller bodies (44, 46, 48) in their spacing from and in their position relative to one another.

7. The electromechanical partial-lining disk brake according to claim 1, characterized in that the disk brake (10) has an encapsulation (20; 30; 64) of moving parts.

8. The electromechanical partial-lining disk brake according to claim 7, characterized in that the disk brake (10) has a floating caliper (14), in which the friction brake lining (36, 60) rests and which is guided displaceably by a caliper guide (23) transversely to the brake disk (16); and that the caliper guide (18, 20, 22) has an encapsulation (20, 24, 26).

9. The electromechanical partial-lining disk brake according to claim 7, characterized in that the disk brake (10) has an encapsulation (30, 32, 64) for the actuating device (70) and/or the self-booster (68).

10. The electromechanical partial-lining disk brake according to claim 1, characterized in that the actuating device (70) has a contate gear mechanism (78, 80) for displacing the ramps (50, 52, 54) of the ramp mechanism 44, 46, 48, 40, 52, 54 relative to one another.

11. The electromechanical partial-lining disk brake according to claim 1, characterized in that a brake caliper (14) has a slide bearing (22), with which it is guided displaceably transversely to the brake disk (16); and that the slide bearing (22) is disposed approximately in an imaginary plane with the brake disk (16).

12. The electromechanical partial-lining disk brake according to claim 11, characterized in that the brake caliper (14) has a brace (24, 26) against tilting, for relieving the slide bearing (22).

13. The electromechanical partial-lining disk brake according to claim 1, characterized in that the actuating device (70) engages the ramp mechanism (44, 46, 48, 40, 52, 54) with a long lever arm radially relative to the brake disk (16) outside the ramps (50, 52, 54).